

### **REMARKS**

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-40 are currently pending in the instant application. Claims 1, 3-5, 9-11, 14-17, 24-26, 28, and 37-39 have been amended. Claims 1, 5, 14, 24, 25, 26, 28 and 37-39 are independent. Reconsideration of the present application is earnestly solicited.

#### **Allowable Subject Matter**

Applicants appreciate the Examiner's indication of allowable subject matter. Specifically, the Examiner has indicated that the subject matter of claims 24, 25, 37 and 38 would be allowed if the rejections under 35 U.S.C. § 112 are obviated and/or rendered moot. Claims 4-7, 14, 15, 20, 23, 32, 33, 35 and 36 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112 and if rewritten in independent format. In light of the foregoing amendments to the claims, claims 5, 14, 24, 25, 26, 27, and 37-40 should be allowed as indicated by the Examiner. Applicants submit that the remaining claims are also allowable as discussed in greater detail hereinafter.

#### **Minor Informalities**

The Examiner has identified potential informalities with the specification. Applicants have amended the specification to better clarify the alleged

informalities identified by the Examiner. Applicants submit that each of these objections have been obviated and/or rendered moot.

### **Claim Rejections Under 35 U.S.C. § 112**

Claims 1-25 and 28-38 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. These rejections are respectfully traversed.

In light of the foregoing amendments to the claims, Applicants respectfully submit that these rejections have been obviated and/or rendered moot. However, Applicants respectfully submit that the foregoing amendments have been made to merely clarify the claimed invention.

Without conceding the propriety of the Examiner's rejections, but merely to timely advance the prosecution of the application, Applicants have incorporated the changes recommended by the Examiner. Applicants submit that the requested changes do not appear to either raise a substantial question of the patentability of the claimed invention nor do they narrow the scope of the claimed invention.

With respect to claims 1, 24, 25, 28, 29, 37 and 38, Applicants have amended these claims to include the feature of the lens being engaged with the housing structure. However, the Examiner has also indicated that the term "lens" is allegedly indefinite. Instead, the Examiner is apparently alleging that since this term appears broad to the Examiner, this term is supposedly

indefinite. The Examiner's basis for this position is that "the specification discloses two lenses (206, fig. 2 and diffuser 330, fig. 3)." However, these claims are only claiming a single lens. Applicants are not required by any statute and/or the Patent Rules to amend these claims to narrowly claim a particularly type of lens. The Examiner is also reminded that claim 25 claims both a diffuser and a lens. Claims 1 and 24 claim a single lens. Claims 28, 37 and 38 are process claims. Accordingly, the Examiner's insistence upon a specific structural limitation appears misplaced. Accordingly, this rejection has been obviated and/or rendered moot.

With respect to claim 10, the Examiner's position is respectfully traversed. Combinations of light sources, including colors (see paragraph 0010 also discussing light sources of varying wavelength, ratio, brightness, etc) are described in the specification. One of ordinary skill in the art will readily appreciate that "a plurality of colors" inherently includes one or more combinations of colors. For example, red, white and green are discussed as examples in the specification; combinations of these colors may be green and white, green and red, red and white and/or green, red and white. The Examiner is reminded that these "combinations" are all fully supported by at least paragraph 0010 through 0011 of the specification.

With respect to claim 11, the Examiner has alleged that "said light sources comprise one or more combinations of angular distribution" is indefinite as lacking structure or means to support this function. This

rejection is traversed. Again, the Examiner is invited to review paragraphs 0010 through 0013 of the present application if the term angular distribution is unclear to the Examiner. One of ordinary skill in the art would readily appreciate that a variety or combination(s) of angular distributions of light may be achieved by utilizing various combinations of light sources, e.g., having different ranges of angular distribution or degrees of narrow and broad beam spans. Claim 11, as amended, includes all of the features of claim 11 as originally presented to the Examiner. However, these claims have merely been amended to clarify the claimed invention for the benefit of the Examiner. One of ordinary skill in the art will readily appreciate that "a plurality of" colors or angular distributions will inherently include combinations of these features.

With respect to claims 15-20, 24 and 25, these rejections have been obviated and/or rendered moot. In addition, the Examiner's interpretation of the requirements of 35 U.S.C. § 112 is traversed. For example, an optical filter and/or a diffuser may be placed in a variety of positions and/or orientations within or engaged with the housing structure. The Examiner seemingly would prefer that Applicants limit the claimed invention to an embodiment wherein the diffuser and/or the optical filter are in specific spatial positioning within the housing structure. Applicants have claimed these features as being engaged with the housing structure. The Examiner is reminded that FIG. 3 is merely illustrative of an exemplary embodiment of the claimed invention. One of ordinary skill in the art would readily appreciate that pages 6-12 of the

present application specifically suggest various positions and/or orientations of the optical filter, diffuser, first prism and/or second prism within or engaged with the housing structure. With respect to claims 18-20, these rejections are without merit. The facets are clearly claimed as referring to a face(s) of a prism(s).

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 1-3, 8-11, 16-19, 21, 22, 26-31 and 34 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamada et al. (U.S. Patent No. 5,704,703). These rejections are respectfully traversed.

The Examiner has indicated that Yamada et al. teaches or suggests all of the limitations of independent claim 1. Applicants submit that the prior art of record fails to teach or suggest each and every limitation of the combination of elements of the claimed invention, including the limitation of "a lens through which emitted light passes, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens." Accordingly, this rejection should be withdrawn. If the Examiner persists in maintaining this rejection, Applicants request clarification as to where in this reference this limitation is recited, e.g., since col. 9, lines 10-14 do not appear to describe the above-identified claim limitation. Accordingly, the rejections to claims 1-23 have been obviated and/or rendered moot.

With respect to claims 26 and 27, the prior art of record fails to teach or suggest each and every limitation of the combination of elements of the claimed invention, including the limitation(s) of "at least one solid state light source." Accordingly, and as indicated by the Examiner with respect to independent claim 14, these claims should be allowed.

With respect to claims 28-36, the prior art of record fails to teach or suggest each and every limitation of the combination of elements of the claimed invention, including the limitation(s) of "passing the emitted light through a lens, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens after passing through said output face." The alleged "lens" of Yamada is not capable of transmitting light emitted from the light source via the output face of the prism. Accordingly, the rejections to claims 28-35 should be withdrawn.

In accordance with the above discussion of the patents relied upon by the Examiner, Applicants respectfully submit that these documents, either in combination together or standing alone, fail to teach or suggest the invention as is set forth by the claims of the instant application.

Accordingly, reconsideration and withdrawal of the claim rejection are respectfully requested. Moreover, the Applicants respectfully submit that the instant application is in a condition for allowance.

As to the dependent claims, Applicants respectfully submit that these claims are allowable due to their dependence upon an allowable independent claim, as well as for additional limitations provided by these claims.

### **Claim Rejections Under 35 U.S.C. § 103**

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada et al. (U.S. Patent No. 5,704,703). This rejection is traversed.

In light of the foregoing amendments to the claims, this rejection has been obviated and/or rendered moot. Claims 12 and 13 should be allowed since the prior art of record fails to teach or suggest each and every limitation of the combination of elements of claimed invention of claim 1, discussed hereinabove. Accordingly, this rejection should be withdrawn.

### **CONCLUSION**

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state-of-the-art, no further comments are necessary with respect thereto.

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

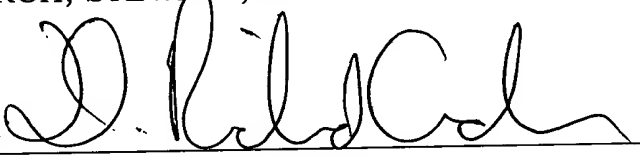
In the event there are any matters remaining in this application, the Examiner is invited to contact Matthew Shanley, Registration No. 47,074 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By



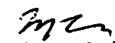
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Attachment: Version with Markings to Show Changes Made

**MARKED-UP VERSION OF AMENDMENTS****IN THE SPECIFICATION**

**The paragraph [0027] beginning on page 8, has been amended as follows:**

**[0027]** The preferred embodiment of primary prism 308 is shaped generally as a right triangle with coplanar top and bottom surfaces 310 and 312 respectively, an input face 318, an output face 316, and a transflective face 320. Primary prism 308 is oriented such that the output face 316 is directed toward the aircraft's direction of flight when installed on the aircraft as a wingtip position light. When installed as a rear position light, primary prism 308 is arranged such that its sharp angular cutoff matches the desired distribution for rear position lighting. The top surface 310 and bottom surface 312 of primary prism 308 are oriented generally parallel to the plane formed by the aircraft's wings. Top surface 310 may be tilted with respect to bottom surface 312 in order to tailor the vertical distribution of light emitted by position light 200. Top surface 310 and bottom surface 312 may also be textured to further tailor the vertical distribution of the light emitted by position light 200. Input face 318 is oriented generally [perpendicular to] in parallel with the aircraft's direction of flight and receives light from the light sources 302. Light emitted from light sources 302 form a continuum of incident angles of light on transflective face 320 such that some light exceeds the critical angle of total internal reflection for primary prism 308, some light is

at the critical angle of primary prism 308, and some light does not exceed the critical angle of primary prism 308.

### **IN THE CLAIMS**

**The claim has been amended as follows:**

1. (Amended) A position light for use on an aircraft, comprising:  
a housing structure;  
at least one light source arranged inside said housing structure;  
a prism having an input face, an output face, and a transfective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism; and  
a lens through which emitted light passes, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens.
3. (Amended) The position light of claim 1, further comprising [means] an alignment guide for aligning said light source to direct said light source.
4. (Amended) The position light of claim 3, wherein said [aligning means] alignment guide further includes means for carrying away heat generated by said light source.

5. (Amended) A position light for use on an aircraft, comprising:  
a housing structure;  
at least one light source arranged inside said housing structure;  
a prism having an input face, an output face, and a transfective face to  
receive, distribute, and direct light emitted by said light source, said light  
source being located externally to said prism;  
a lens through which emitted light passes, wherein said lens is engaged  
with the housing structure; and [The position light of claim 1, further  
comprising]  
means for controlling the amount of electrical current applied to said  
light source.

9. (Amended) The position light of claim 1, wherein said at least one light  
source comprises a plurality of light sources.

10. (Amended) The position light of claim 9, wherein said light sources  
comprise [one or more combinations] a plurality of colors.

11. (Amended) The position light of claim 9, wherein said light sources  
comprise [one or more combinations of] a plurality of angular [distribution]  
distributions of light.

14. (Amended) A position light for use on an aircraft, comprising:  
a housing structure;  
at least one light source arranged inside said housing structure; [The  
position light of claim 1,] wherein said light source is solid state;  
a prism having an input face, an output face, and a transflective face to  
receive, distribute, and direct light emitted by said light source, said light  
source being located externally to said prism; and  
a lens through which emitted light passes, wherein said lens is engaged  
with the housing structure.

15. (Amended) The position light of claim 1, further comprising an  
optical filter between said at least one light source and said input face of said  
prism to condition the light emitted by said light source.

16. (Amended) The position light of claim 1, further comprising at least  
one diffuser between said at least one light source and said input face of said  
prism to further condition and distribute the light emitted by said light source.

17. (Amended) The position light of claim 1, further comprising a second  
prism within said housing structure having an input face, an output face, and  
a transflective face to further shape and direct the light emitted by said light  
source.

24. (Amended) A solid state position light for use on an aircraft, comprising:

a housing structure;

a plurality of solid state light sources arranged inside said housing structure;

[means] an alignment guide for aligning said solid state light sources to direct said light sources;

a prism having an input face, an output face, and a transfective face to receive, distribute, and direct light emitted by said solid state light sources, said light sources being located externally to said prism;

means for controlling the amount of electrical current applied to said solid state light sources; and

a lens through which emitted light from said light sources passes, wherein said lens is engaged with the housing structure.

25. (Amended) A position light for use on an aircraft, comprising:

a housing structure;

a plurality of light sources arranged inside said housing structure, wherein said light sources are electrically connected in series-parallel;

[means] an alignment guide aligning said light sources to direct said light sources;

means for carrying away heat generated by said light sources;

an optical filter for further conditioning the light emitted from said light sources;

a diffuser for further conditioning and distributing the light emitted from said light sources;

a first prism having an input face, an output face, and a transfective face to receive, distribute, and direct light emitted by said light sources, said light sources being located externally to said first prism, said first prism including facets on said input face;

a second prism having an input face, an output face, and a transfective face to further shape and direct the light emitted by said light sources, said second prism including facets on said input face;

means for controlling the amount of electrical current applied to said light sources; and

a lens through which emitted light passes, wherein said lens is engaged with the housing structure.

26. (Amended) A position light for use on an aircraft, comprising:

a prism having an input face, an output face, and a transfective face to receive, distribute, and direct light; and

at least one solid state light source wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transfective face of said prism and a second portion of the light emitted from

said light source is transmitted through said transfective face, the combination of said first and second portions of light producing a lighting pattern with a sharp angular cutoff corresponding to the critical angle for to said total internal reflection at said transfective face.

28. (Amended) A process for providing lighting for use on an aircraft, comprising:

providing a housing structure;

placing at said housing structure at least one light source;

applying electrical current to said at least one light [sources] source;

receiving, distributing, and directing light emitted from said light [sources] source by means of a prism having an input face, an output face, and a transfective face, said light sources being located externally to said prism; and

passing the emitted light through a lens, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens after passing through said output face.

37. (Amended) A process for providing position lighting for use on an aircraft, comprising:

providing a housing structure;

placing at said housing structure a plurality of solid state light sources that are aligned to direct said light sources;

applying and controlling electrical current to said solid state light sources;

receiving, distributing, and directing light emitted from said solid state light sources by means of a prism having an input face, an output face, and a transfective face, said light sources being located externally to said prism; and

passing the emitted light through a lens, wherein said lens is engaged with the housing structure.

38. (Amended) A process for providing position lighting for use on an aircraft, comprising:

providing a housing structure having an interior surface;

placing at said housing structure a plurality of light sources that are aligned to direct said light sources, said light sources electrically connected in series-parallel;

aligning said light sources to direct said light sources;

carrying away heat generated by said light sources;

optically filtering light from said light sources;

diffusing light from said light sources;

receiving, distributing, and directing light emitted from said light sources by means of a first prism having a faceted input face, an output face, and a transflective face, said light sources being located externally to said first prism;

shaping and directing the light emitted by said light sources by means of a second prism disposed at the transflective face of said first prism and having a faceted input face, an output face, and a transflective face;

applying and controlling electrical current to said light sources; and

passing the emitted light through a lens, wherein said lens is engaged with the housing structure.

39. (Amended) A process for providing position lighting for use on an aircraft, comprising:

providing at least one solid state light source;

applying electrical current to said light sources; and

receiving, distributing, and directing light emitted from said light source by means of a prism having an input face, an output face, and a transflective face, wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transflective face of said prism and a second portion of the light emitted from said light source is transmitted through said transflective face, the combination of said first and second portions of light producing a lighting pattern with a sharp angular cutoff

corresponding to the critical angle for said total internal reflection at said transfective face.